

We claim:

1. A moist wipe for delivering to an animate or inanimate surface a cationic functional agent in an aqueous imbuelement and characterized by a desired efficacy, comprising: a bonded non-woven web containing cellulosic fibers and having an anionic surface charge of not greater than about 1.2 meq per kilogram of dry web, and about one to three times the dry weight of the web of an aqueous imbuelement carrying said cationic functional agent at a concentration of about 6 milli-equivalents per liter or less, said cationic functional agent partially adsorbed by the web, whereby the amount of said cationic functional agent remaining in the free imbuelement is deliverable to the surface in sufficient quantity for the desired efficacy.
2. A moist wipe according to claim 1 wherein said cationic functional agent is a monomeric cationic functional agent.
3. A moist wipe according to claim 1 or claim 2 wherein the weight of said imbuelement is about two to three times the dry weight of the web.
4. A moist wipe according to claim 1 wherein the ratio of the concentration of the cationic functional agent remaining in solution divided by the initial cationic functional agent concentration is at least 0.15.

5. A moist wipe according to claim 2 wherein the ratio of the concentration of the cationic functional agent remaining in solution divided by the initial cationic functional agent concentration is at least 0.15.
6. A moist wipe according to any one of claims 1, 2, 4, or 5 wherein said web contains a binder comprising a polymer and a surfactant, the net charge of the binder being essentially neutral to cationic.
7. A moist wipe according to claim 3 wherein said web contains a binder comprising a polymer and a surfactant, the net charge of the binder being essentially neutral to cationic.
8. A moist wipe according to claim 6 wherein said web is dry laid having incorporated therein a binder consisting essentially of a polymer and a non-ionic surfactant.
9. A moist wipe according to claim 6 wherein said web is dry laid having incorporated therein a binder consisting essentially of a polymer and a cationic surfactant.
10. A moist wipe according to claim 7 wherein said web is dry laid having incorporated therein a binder consisting essentially of a polymer and a non-ionic surfactant.

11. A moist wipe according to claim 7 wherein said web is dry laid having incorporated therein a binder consisting essentially of a polymer and a cationic surfactant.
12. A moist wipe according to any one of claims 1, 2, 4 or 5 wherein said web comprises predominantly cellulose.
13. A moist wipe according to any one of claims 1, 2, 4 or 5 wherein said web is a blend of cellulosic fibers and polymeric fibers.
14. A moist wipe according to claim 13 wherein said blend comprises up to about 75 weight percent polymeric fibers.
15. A moist wipe according to any one of claims 1, 2, 4 or 5 wherein said functional agent is an antimicrobial agent.
16. A moist wipe according to claim 3 wherein said functional agent is an antimicrobial agent.
17. A moist wipe according to claim 6 wherein said functional agent is an antimicrobial agent.

18. A moist wipe according to claim 15 wherein said functional agent is an antimicrobial agent selected from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof.
19. A moist wipe according to claim 16 wherein said functional agent is an antimicrobial agent selected from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof.
20. A moist wipe according to claim 17 wherein said functional agent is an antimicrobial agent selected from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof.
21. A moist wipe according to claim 18 wherein said antimicrobial agent is benzalkonium chloride.
22. A moist wipe according to claim 18 wherein said antimicrobial agent is benzethonium chloride.
23. A moist wipe according to any one of claims 1, 2, 4, or 5 wherein said web is airlaid and having a basis weight of about 30 to 60 pounds per square foot, and a cross direction wet tensile cured of at least about 300 grams per three inches.

24. A method for making a moist wipe for delivering a cationic functional agent in an aqueous medium to an animate or inanimate surface for a desired efficacy, which comprises forming a bonded non-woven web comprising cellulosic fibers and having an anionic surface charge not greater than 1.2 meq per kilogram, and adding about one to three times the dry weight of the web an aqueous imbuelement carrying a cationic functional agent at a concentration of about 6 milli-equivalents per liter or less and being partially adsorbed by the web, whereby the amount of said agent remaining in the free imbuelement is deliverable to the surface in sufficient quantity for the desired efficacy.

25. The method according to claim 24 wherein said cationic functional agent is a monomeric cationic functional agent.

26. The method according to claim 24 or claim 25 further including applying to at least one surface of said web a polymeric binder containing a non-ionic surfactant.

27. The method according to claim 24 or claim 25 further including applying to at least one surface of said web a polymeric binder containing a cationic surfactant.

28. The method according to any one of claims 24 or 25 wherein said functional agent is an antimicrobial agent.

29. The method according to claim 26 wherein said functional agent is an antimicrobial agent.

30. The method according to claim 27 wherein said functional agent is an antimicrobial agent.
31. The method according to claim 29 wherein said functional agent is an antimicrobial agent is selected from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof.
32. The method according to claim 31 wherein said antimicrobial agent is benzalkonium chloride.
33. The method according to claim 31 wherein said antimicrobial agent is benzethonium chloride.
34. A method for applying a cationic functional agent in an aqueous medium to an animate or inanimate surface for a desired efficacy, which comprises: forming a bonded non-woven web comprising cellulosic fibers and having an anionic surface charge not greater than 1.2 meq per kilogram, and at the time of need for applying said cationic functional agent, adding to the web about one to three times the dry weight of the web of an aqueous imbuelement carrying said cationic functional agent at a concentration of about 6 milli-equivalents per liter or less and being partially adsorbed by the web, whereby the amount of said cationic functional agent remaining in the free imbuelement can be applied to the surface in sufficient quantity for the desired efficacy.

35. A method for applying a cationic functional agent in an aqueous medium to an animate or inanimate surface for a desired efficacy, which comprises: forming a bonded non-woven web comprising cellulosic fibers and having an anionic surface charge not greater than 1.2 meq per kilogram, hermetically packaging one or more webs, removing a web from said packaging at the time of need for applying said cationic functional agent, and adding to the web about one to three times the dry weight of the web an aqueous imbuelement carrying said cationic functional agent at a concentration of about 6 milli-equivalents per liter or less and being partially adsorbed by the web, whereby the amount of said cationic functional agent remaining in the free imbuelement can be applied to the surface in sufficient quantity for the desired efficacy.

36. The method according to claim 35 wherein said functional agent is an antimicrobial agent is selected from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof.

37. The method according to claim 36 wherein said antimicrobial agent is benzalkonium chloride.

38. The method according to claim 36 wherein said antimicrobial agent is benzethonium chloride.

39. A moist wipe for delivering to an animate or inanimate surface a cationic functional agent in an aqueous imbuelement and characterized by a desired efficacy, comprising: a bonded non-woven web consisting essentially of dry laid cellulosic fibers bonded together with a binder comprising a combination of a polymer and a surfactant chosen from the group consisting of non-ionic surfactants and cationic surfactants, said web having a basis weight of from about 90 to about 140 lbs. per 300- sq. ft. ream, a caliper of from about 120 to about 160 mils per 8 sheets, a CD wet tensile strength of at least about 300 g/3", an MD wet tensile strength of at least about 700 g/3" and having an anionic surface charge of not greater than about 1.2 meq per kilogram of dry web, and about one to three times the dry weight of the web of an aqueous imbuelement carrying said cationic functional agent at a concentration of about 6 milli-equivalents per liter or less, said cationic functional agent partially adsorbed by the web and chosen from the group consisting of benzalkonium chloride, benzethonium chloride, and mixtures thereof whereby the amount of said cationic functional agent remaining in the free imbuelement is deliverable to the surface in sufficient quantity for the desired efficacy.